

CYMBIOLA SOPHIAE (Gray), FROM THE ARAFURA SEA.

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(2 Text figures)

A single specimen of a beautiful Volute, *Cymbiola sophiae* (Gray) was brought back from the Arafura Sea by Mr. Takemura, biological investigator for the Tokai Regional Fisheries Research Laboratory during 1957, when he was in charge of pearl fishing. It was collected alive from the muddy bottom of the pearl fishing ground near Thursday Island at a depth ca. 25-35m. Though the present writer has examined several specimens of this species, collected from the Arafura Sea, before he was supplied with this specimen, it was his first opportunity to see the shell with animal. However, the visceral part was unfortunately lost.

CYMBIOLA (VESPERTILIO) SOPHIAE (Gray).

Voluta sophiae Gray, 1864, *Ann. Mag. Nat. Hist.*, xviii: 431 (*cit.* Tryon 1882, *Man. Conch.* IV.: 87).

Shell of medium size, elongate in shape, 6 cm. in height, stout; surface smooth, shiny; spire low, obtuse at the apex, encircled with spines with interspaces around the shoulder; spines short but acute, directed upwards, 10 in number on the body whorl, 6 on the penultimate whorl; protoconch followed by low spire bearing primitive and weak axial ribs, suture shallow, indistinct, not channeled, aperture narrow above, angular at the shoulder, broadly round below; outer lip simple, acute at the edge but somewhat thickened at the shoulder; columellar margin thickly calloused at base and provided with 5 strong and oblique folds; canal rather deeply sinuous dorsally; no operculum.

Coloration of the shell, light chestnut brown generally, with pale maculations here and there; body whorl girdled by two darker zones with brownish black spots of various size sparsely and irregularly arranged along the edges of darker zones; area between the suture and shoulder provided with axial brown striae; brown fine striae also around the columellar callous; aperture pinkish brown inside, gradually becoming darker towards marginal area of outer lip. Foot massive, broad in general; the dorsal surface rather rough, gray in colour with four transverse bands of yellowish gray and spotted with ashy white; epipodium smoothly round at the edge, slightly projected laterally, with fine delicate mammillar papillae along the marginal part; pedal sole smooth, broad, yellowish gray in colour with fine transverse lines; metapodium with blunt end. Cephalic tentacles rather short, obtuse at the tip, flattened, gray in colour. Siphon long, tube-like in shape, gaping along the ventral side, gray in colour with darker maculations; proboscis short in the fixed position. Mantle observable beneath the shell, yellowish white, but spotted with gray and yellow along the margin.

Remarks: Such workers as Tryon considered this species to be a form of "*Voluta*" *norrisi* Gray. And yet, this species is closely allied to *C. vespertilio* (L.) in every external feature. This species is distinguished from *C. vespertilio* by less elongate shape, more angular shoulder, more acute spines, lower spire, broader aperture and pale coloration or colour pattern. The shape of the foot of *C. vespertilio* figured by Tryon (1882, *Man. Conch.*

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IV, pl. 25, fig. 48; cited from Quoy, 1832, *Voy. Astrol.*, t. 14, fig. 3) is slightly different from that of this species in having a sinus of the lateral margin between the epipodium and mesopodium. But the present author is of the opinion that this may be rather exaggerated, as the epipodium usually projects laterally a little in such related *Volutes* as *Fulgoraria*, which has a bright reddish foot. Ecologically, this species seems to live buried in the muddy bottom, like other *Volutes* and their kin, *Melo*.

From the Arafura Sea, two other *Volutes* were also collected. They are *Volutoconus bednalli* (Brazier) and *Amoria turneri* (Griffith and Pidgcon). The former is extremely rare in the area, as only three specimens have been examined by the writer, while the latter is said to be rather commonly found in the pearl fishing grounds. This has been reported along with other shells from the Arafura Sea by Takemura and Okutani (1955, *Bull. Jap. Soc. Sci. Fish.*, 21 (2)), in which a part of the molluscan fauna in the "East" pearl fishing ground of the Arafura Sea was roughly summarized.



Text—figure 1.



Text—figure 2.

Cymbiola sophiae (Gray) collected from the Arafura Sea near Thursday Island.